

**HARRISON TOWNSHIP**

**MASTER PLAN**

**CIRCULATION ELEMENT**

**PUBLIC HEARING: JULY 16, 1998**

## **INTRODUCTION**

The primary circulation planning goal is to maintain and assure the quality of the existing and proposed routes by which people, goods, and services move throughout the Township. Circulation typically involves the road and highway network, but it also includes mass transit, railroad and air traffic, as well as pedestrian, bicycle, and water traffic. Safe and efficient circulation is essential to preserving and enhancing the quality of life in a community. Circulation planning is a critical element in attracting and keeping businesses in an area. It is important to residents because it defines how and where they live, shop, and play. In emergency situations, good circulation is a matter of public health and safety. Circulation planning is also important for people outside the community because it defines how through traffic gets from one end of the community to the other, e.g. shore traffic.

This planning element will analyze the existing conditions and planning goals for the variety of existing and proposed transportation systems in the Township. It will then review the findings and recommendations contained in the Circulation Element of the 1989 Master Plan. Finally, this element will contain a set of recommendations for achieving the Township's goal of providing safe and efficient circulation throughout the community. These recommendations will contain a set of policies that the Township should consider when implementing its capital improvement plan and reviewing development proposals.

### **A. Synopsis of 1989 Master Plan Circulation Element**

The 1989 Circulation Element provided information on the cartways and rights-of-way for federal, state, and county roads in the Township. It also reviewed the Township's connection to the regional transportation, i.e. railroads, air traffic, and interstate highways. Three major issues were explored in the plan: a U.S. 322 Bypass route around Mullica Hill; an extension of the PATCO rapid transit system from Camden to Glassboro; and the completion of NJ 55. A portion of the plan discussed how the visual image and character of the community was affected by the views from the road network. The plan also included a classification (hierarchy) of streets in the Township and recommended a set of six general policies to improve circulation and four general implementation measures, such as adopting an official map, updating the subdivision ordinance, developing new design standards, and developing a capital improvement plan. The plan also provided an existing and proposed street classification map which was overlaid on a composite tax parcel map.

### **B. DEVELOPMENTS SINCE THE 1989 PLAN**

Before making a series of recommendations for circulation issues for the next six years, it is worth reviewing what changes in transportation issues have occurred since the last plan was drawn in 1989. Since 1989, the Blue Route I-476 in Pennsylvania and NJ 55 have been completed opening new limited access freeways from Philadelphia to the shore. Traffic in the general area of Route 55 has substantially increased, as has development pressure on the eastern end of the Township. Summer weekend traffic is particularly high given travelers' use of U.S. 322 through the Township. For example, traffic on U.S. 322 from Barnsboro Road to Aura Road in downtown Richwood was measured as 14,540 vehicles on an off-season weekday and 19,132 vehicles on a Friday during the summer in 1994 and U.S. 322 east of Walters Road was measured at 14,507 and 18,221 vehicles in the same time period. These rates are comparable to those on roads in Cherry Hill and Voorhees Townships in Camden County, areas which have many times the population of rural Harrison Township.

Recent (1996) developments in the proposed PATCO extension to Glassboro indicate a reconfiguration to a planned light rail system using the existing railroad right-of-way that runs through Sewell, Pitman, and Glassboro. Although the line will not run down the center of NJ 55 and have a stop in Harrison Township, the Township is expected to experience additional growth pressures from the proposed line. It is unlikely, however, that this passenger line will be opened within the next 6 years.

The quest for a U.S. 322 Bypass of Mullica Hill is still being considered by regional transportation planners. A simple circular bypass of the village was proven too difficult as studies found that most of the alternative routes were limited either by existing or committed development, wetlands, topography, and right-of-way problems. Now that NJ 55 has been completed and interstate access to the southern coastal beaches is available, regional transportation planners are looking at ways to solve the problems through a variety of circulation improvement and traffic calming measures. The Delaware Valley Regional Planning Commission (DVRPC) has released the results of their year-long public outreach program in which they canvassed opinions of local residents and community leaders on ways to improve east-west and shore-bound traffic through the county. No additional improvements have been officially proposed by the DVRPC or the New Jersey Department of Transportation.

The Township has continued its position that North and South Main Streets in Mullica Hill should not be widened or divided or in any other way changed to destroy the historic character of Mullica Hill. Similarly, the Township's position on widening and "urbanizing" the other arterial highways in Harrison, i.e. U.S. 322, NJ 45, and NJ 77, has remained unchanged: the rural Township's character should be preserved along these old county roads and thru-traffic should be directed onto limited access highways so as not to affect the surrounding community.

The recommendations made in the plan for revision of the subdivision ordinances were reviewed and implemented by the Township. However, an official map was not adopted. Since 1989, substantial development has occurred around the village of Mullica Hill and roads in two new neighborhoods, Hickory Hollow and Cherry Lawn, have been laid out to connect with the proposed internal street system. The 1989 plan recommended that the Township continue to implement the existing circulation plan which included internal thru-streets to improve local circulation.

## **C. Existing Conditions**

### **1. Roadway and Bridge Network**

Efficient circulation planning should be based upon the classification of streets by function and traffic volume, and new development should be designed in response to the street classification system. The New Jersey Department of Transportation classifies all roads in New Jersey under Federal Highway Administration (FHWA) criteria regardless of jurisdiction. The classification of roadways and bridges is a necessary part of traffic management, road improvement, and emergency management planning. The Model Subdivision and Site Plan Ordinance also recommends a variety of traffic volume tolerances based on typical road functions, as noted below.

a. **Minor Streets**

Minor streets are primarily designed to provide and carry traffic in residential neighborhoods. Minor Streets should not exceed 250 vehicle trips per day and should have a right-of-way of fifty feet in width. Neighborhoods should be designed with sufficient thru-streets to provide for emergency vehicle access and with at least two means of egress onto a collector street.

Stub Streets should be provided in developments to allow neighborhoods to be connected with each other. The following are three types of minor streets in Harrison Township.

1) **Residential Access Street**

Residential access streets provide access to individual lots and are the preferred method of neighborhood residential development. They should be designed to maximize east-west orientation to provide for better solar orientation of residential development.

2) **Rural Residential Streets**

Rural residential streets are designed to serve low density areas, i.e. small residential clusters in agricultural areas. Traffic on these routes should not exceed 200 vehicle trips per day. Narrower right-of-ways may be suitable depending on the type of development proposed.

3) **Cul-de-sac**

Cul-de-sacs are essentially dead-end streets with a turnaround at the end. Dead end streets are the weakest element in a coordinated circulation plan and should be limited to oddly shaped areas or pieces of property that are otherwise inaccessible. Length of cul-de-sacs should generally be limited to 600 feet in length in order to encourage a more efficient use of the circulation network.

b. **Collector Streets**

Collector streets are designed to collect and distribute traffic from minor streets to arterial roads. They are grouped into three primary categories: major collectors, minor collectors, and local collectors, depending on their function and the amount of traffic that they collect and distribute. Collector streets, which typically carry 500 to 3,000 vehicle trips per day, may be either municipal streets or county roads. The major and minor collectors in Harrison Township are currently all county roads. The highest order of collectors are major collectors which generally carry more traffic between smaller population centers than minor collectors. Local collectors are typically the lowest order of county roads and the highest order of municipal roads connecting smaller settlements or neighborhoods. Because collectors provide for the free flow of vehicles, on-street parking and direct lot access should be minimized. Sub-collectors, which typically carry less than 500 vehicle trips per day, service traffic generally within residential neighborhoods and may allow on-street parking and direct lot access.

c) **Arterial Roads and Controlled Access Highways**

Arterial roads and controlled access highways are designed for inter-municipal and regional through traffic. In Harrison Township, NJ 45, NJ 77, and U.S. 322 serve as major arterial roads in the state's highway network. There are currently no minor arterial roads in Harrison Township. Individual residential lots should not be permitted direct access to arterial roads, and commercial and industrial development should have access only from selected driveways. The New Jersey Turnpike and NJ 55 are two controlled access highways in the Township. Access to these highways and encroachment within their right-of-ways are strictly controlled by the turnpike authority and NJDOT.

The following chart reflects the classification of streets and roads in Harrison Township by jurisdiction.

a. **Municipal Streets**

1) **Minor Streets**

All municipally owned streets not otherwise classified as collectors or arterial roads.

2) **Local Collectors**

Union Road, Walters Road, Jackson Road, New Street, Griffin Road, Bishop Road, Williamson Lane, Woodland Avenue, High Street, Colson Land, and Heilig Road.

b. **County Roads**

1) **Local Collectors**

Harrisonville Road (County Route 618), Main Street in Ewan (County Route 622), Ewan Road (County Route 623), and Wolfert Station Road (County Route 664).

2) **Minor Collectors**

Tomlin Station Road (County Route 607), Jefferson Road (County Route 624), and Cedar Road (County Route 667).

3) **Major Collectors**

Commissioners Road (County Route 581), Breakneck Road (County Route 603), Barnsboro Road (County Route 609), Lambs Road (county Route 635), Ellis Mill Road (County Route 641), and Aura Road (County Route 667).

**c. State and Federal Roads****1) Arterial Roads**

North and South Main Streets, and Woodstown Road (NJSH Route 45); Bridgeton Pike (NJSH Route 77); and Swedesboro Road and Mullica Hill Road (U.S. 322).

**2) Freeway**

Route 55.

**3) Turnpike**

New Jersey Turnpike.

The above represents a change in the Township's current street classification system found in the Land Subdivision Ordinance. It is recommended that the definitions and the design standards be amended to change the term "primary street" to "arterial road". In addition, the word "residential" should be removed from the terms "residential collector street" and "residential sub-collector street" to allow for these types of streets in mixed use and on residential development. The chart of "Standards for Streets" should also be revised to indicate that these are the standards for municipal streets and that standards for roads of other jurisdictions, such as arterial roads and some collector streets, are dependent on either county or state standards.

**2. Right-of-Ways and Cartways****a. Municipal Streets and County Roads**

The Township has established standards for required rights-of-way and cartway widths in the Land Subdivision Ordinance (see paragraph d of this section). Gloucester County has identified two right-of ways widths (64 feet and 76 feet) for its roads. The existing rights-of-ways for county roads vary between 33 feet and 49.5 feet. Municipal, county, and state governments may require the dedication of additional land or frontage to widen existing rights-of-way in the site plan and major subdivision approval process.

**b. Cartways**

The planned cartway widths for county roads within Harrison Township are 56 and 44 feet, the smaller width for local collector streets. The width of the latter road is sufficient for two 12 feet wide travel lanes and two 10 feet wide shoulders. The larger width allows for an additional traffic or passing lane on heavily traveled roads. The County has additional standards regarding road widenings and intersection alignments, which are applied on an as-needed basis.

**b. New Jersey State Highways**

The State of New Jersey is responsible for the arterial highway in Harrison Township and is also in charge of the maintenance of federal highways. U.S. Route 322, which connects the Commodore Barry Bridge with Atlantic City, is a major east/west corridor through Harrison Township and is heavily traveled. With the completion of the Blue Route in Pennsylvania (I-476) and its connection to the Commodore Barry Bridge, U.S. 322 is prone to ever more increasing thru-traffic demands. The New Jersey Turnpike passes through the northwest corner of Harrison. Interchange 2 of the Turnpike at U.S. Route 322 is located in adjacent Woolwich Township.

**d. Schedule of Planning Right-of-Ways and Cartway Widths**

The following is a schedule planned rights-of-way and cartway widths for streets and road in Harrison Township according to jurisdiction:

Municipal Roads

	<u>Right-of-Way</u>	<u>Cartway</u>	<u>Minimum AADT (6)</u>
<i>Municipal Roads Minor Streets(1)</i>			
Residential Access	50 feet	32 feet	250
Cul-de-sac	50 feet	32 feet	250
Rural Residential (2)	40 to 50 feet (3)	20 to 28 feet (4)	200
<i>Collector Streets</i>			
Sub-collector	66 feet	32 to 48 feet	500
Municipal Collector (5)	66 feet	48 feet	3,000
<i>Arterial Streets</i>	86 feet	64 feet (7)	10,000

- 1- Lots shall be permitted to have direct access to all minor streets.
- 2- Rural residential streets are permitted only to serve lots of two acres or larger.
- 3- 40 feet is permitted only with a cartway of 20 feet.
- 4- 20 feet is permitted only where no parking is allowed on street. Twenty-eight feet is required where parking is permitted on one side.
- 5- No lots shall have direct access to a residential collector.
- 6- Average Annualized Daily Traffic.
- 7- Two, 24 foot wide lanes and a 16 foot wide median street.

Gloucester County Roads

<u>Route No.</u>	<u>Name</u>	<u>Length (miles)</u>	<u>Type</u>	<u>Right-of-way (width/feet)</u>	<u>Cartway (width/feet)</u>
581	Commissioners Road	1.28	MaC	76	56
603	Breakneck Road	0.55	MaC	76	56
607	Tomlin Station Road	2.52	MiC	76	56
609	Barnsboro Road	3.19	MaC	76	56
618	Harrisonville Road	2.13	LC	64	44

Gloucester County Roads (Continued)

Route No.	Name	Length (miles)	Type	Right-of-way (width/feet)	Cartway (width/feet)
622	Ewan Road/Main Street	1.29	LC	64	44
623	Ewan Road	3.75	LC	64	44
624	Jefferson Road	0.64	MiC	76	56
635	Lambs Road	0.37	MaC	76	56
641	Ellis Mill Road	1.56	MaC	76	56
664	Wolfert Station Road	0.94	LC	64	44
667	Cedar Road	2.48	MiC	76	56
667	Aura Road	1.50	MaC	76	56

Source: Gloucester County Official Map

Notes:

1. LC – Local Collector, MaC – Major Collector, MiC – Minor Collector
2. Widths are for eventual road sizes, not present ones.
3. All road miles are within the Township.
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**U.S. AND NEW JERSEY ROUTES**

Route Number	Name	Length (miles)	Type	Right-of-way (width/feet)	Cartway (width/feet)
NJ45	North and South Main Streets, and Woodstown Road	3.43	Art.	66	32
NJ55	----	1.50	Frwy.	350	40 each way
NJ77	Bridgeton Pike	1.59	Art.	66	24
U.S. 322	Swedesboro Road and Mullica Hill Road	7.74	Art.	49.5	28
-----	New Jersey Turnpike	0.17	Turn.	300	40 each way

Source: New Jersey Department of Transportation

Notes:

1. All road miles are within Harrison Township
2. Art. – Arterial Highway, Frwy. – Freeway, divided highway, Turn. – Turnpike, divided highway.
3. Widths in Mullica Hill Town Center may vary.

**3. Off-Street Parking and Loading**

The Zoning Ordinance contains standards for providing adequate off-street parking and loading for a variety of uses. When a use is not enumerated, the ordinance requires the applicant to provide for the requirements of a comparable use. Given the wide variety of uses that will continue to be proposed in the town and village centers, it is recommended that the ordinance be amended to indicate that a parking estimate shall be prepared by a qualified engineer, traffic expert, planner, or architect to identify the proposed demand and that such calculations shall be subject to the review and recommendation of the Planning Board Engineer. It is also recommended that the ordinance be amended to include

provisions for handicapped parking in accordance with applicable state and federal regulations.

One recurring problem associated with off-street parking is its lack along the developed portions of North and South Main Streets, i.e. Antique Row. Many of the commercial businesses on the street do not provide sufficient off-street parking spaces which forces customers and browsers to park on the street or to leave their vehicle on a residential side street or at another store. The critical mass of antique shops on the pike creates a unique suburban shopping environment: it invites customers to browse several stores, instead of shopping at just one. This browsing and strolling on the pike is good for business, but does not relate to typical off-street parking requirements. On-street parking on North and South Main Streets adds to congestion due to the narrowness of this state highway and local topography. Reduction of on-street parking could be furthered by the provision of one or two centrally-located off-street parking lots. These lots would also provide shoppers with an easily identified parking destination enticing them to visit more often and stay longer in town. Other municipalities have developed these types of common downtown parking lots with the help of merchant associations and community development grants.

#### **4. Buses, Trains, Air, and Water Transportation**

New Jersey Transit offers daily and weekend bus service along Bridgeton Pike. The line runs from Bridgeton to Camden, where other connections can be made. Passenger train service was at one time available from Glassboro, but has long since been discontinued. Recently, however, NJ DOT has been evaluating expansion of PATCO high speed line service from Camden to Glassboro. Although the plans are still in the development phase, the current plan is to extend the line down the existing Conrail right-of-way into Glassboro. Formerly, the route was to be extended parallel to NJ 42 and NJ 55, perhaps having a stop in Harrison Township near U.S. 322. Details about whether the trains will be light rail with a connection in Camden or have the same trains as the existing high speed line are yet to be resolved. If and when passenger rail service is extended to Glassboro, it will add another mass transit opportunity for the residents of Harrison Township. If planned and developed properly, any increase in growth and associated impacts could be beneficial to the entire community.

Freight rail service to the north, south, and east is still available by way of Conrail in Glassboro. Rail traffic is under-utilized, as tractor trailer carriers continue to outpace railroad service in South Jersey and the rest of the nation. There are no public or private airfields in Harrison Township. Private airfields are available in nearby Washington and Monroe Townships for residents interested in recreational flying, agricultural aviation, or local commuter flights. Philadelphia International Airport provides full-service transportation needs for the metropolitan region. Atlantic City International Airport in Pomona provides another aviation alternative to South Jersey residents.

Commercial and recreational water traffic along the shallow, narrow, and meandering Raccoon Creek is not available in Harrison Township. Traffic on the creek is primarily focused from Swedesboro to the Delaware River. Mullica Hill Lake, east of the town center, is a Township-owned passive, open space recreation area with no motor boating permitted. None of the three small private undeveloped lakes in Harrison Township: Kincaid Lake on Clems Run, and Ewan and Gilman Lakes on the Raccoon Creek, are currently available for recreational traffic either. The latter two lakes are on the Elk Township border, are relatively

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undeveloped, and should be considered for open space preservation by Gloucester County in order to protect them from over-development and intrusion by careless users. Kincaid Lake is surrounded by agricultural development; no change in its status is recommended at this time.

## **5 Pedestrian Traffic**

The separation of pedestrian and vehicular traffic is a critical issue for developing towns like Harrison Township. Curbs, sidewalks, and bicycle paths provide a barrier between vehicles, pedestrians and cyclists to increase public safety along the roadways. By providing curbs, sidewalks and designated bicycle pathways in the parts of the Township that are now, or have the potential to be, frequently used by adult and children walkers, runners, joggers, and bicyclists, the Township furthers its circulation goal of providing safe and efficient transportation systems. It also adds to the quality in the Township by enhancing recreational usage and accessibility for children and adults without cars.

Pedestrian crossings are also part of this equation. Currently, pedestrians, many of them shoppers unfamiliar with the area, cross South Main Street in the Mullica Hill Town Center at several numerous legal and illegal locations. Jaywalking across this busy state highway is a dangerous situation that makes Mullica Hill prone to traffic tie-ups, accidents, and many near-misses. A main street pedestrian crossing plan should be developed and implemented to locate safe crossing locations and ways in which these crossings can be marked and upgraded to enhance pedestrian safety and minimize vehicular congestion. Because this street is a state highway, this plan should be developed in cooperation with NJDOT.

Sidewalks can also be used as a tax-saving measure. The state Department of Education does not require school districts to fund bus service within two miles of an elementary school. Almost two-thirds of Harrison Township students live within two miles of the Township's elementary school. The board of education has supported the development of a sidewalk installation program as a way of cutting its over-all transportation costs. Curb and sidewalks should be provided for the parts of the Township which are zoned for commercial, industrial, and more intensive residential development, as well as to public and semi-public institutional areas, such as parks, schools, and other recreational areas.

The Site Plan and Subdivision Ordinances currently leave the provision of curb and sidewalk to the discretion of the Planning and Zoning Boards. These ordinances should be revised to indicate that curbs and sidewalks shall be provided to provide for existing and future pedestrian activity in all residential areas of the Township.

In addition to the provision of curbs and sidewalks, a designated bicycle pathway should be planned in the Township to form a recreational loop road for adult and child residents. The bicycle path should eventually link Mullica Hill with the villages of Richwood and Ewan, connect Clearview Junior & Senior High School with the Municipal Building, Ella Harris Park, and the 4-H recreational area. The intention of this trail is to mark portions of North and South Main Streets in the Mullica Hill Town Center for bicycle traffic, and to provide trail markers and

dedicated bicycle lanes along the other rural portions of the trail. This marked trail should also avoid U.S. 322, as much as possible, and be made in a loop fashion for easier circulation. The pieces of the trail may be assembled wherever possible when development occurs. At a minimum, the trail should include a dedicated path from Mullica Hill Town Center to the Junior-Senior High School.

## **6. Official Map**

Aside from zoning, one of the strongest measures a municipality can use to guide development into the future is the adoption by the governing body of an Official Map. The Municipal Land Use Law (NJAC 40:55D-32) permits municipalities to designate the location and width of existing and future public streets and drainage ways. As applications for future development come in for approval, they can be evaluated for their compliance with the map's existing and proposed street and drainage networks. By mapping and adopting these routes beforehand, the Township preserves its future right-of-ways and ensures implementation of the circulation plan through the development review process.

The 1989 Master Plan recommended that the Township adopt an official map that would show the location of existing and proposed future rights-of-way for streets, drainage easements, stormwater management facilities, parks, and other areas reserved for public use. The plan included maps in each of its individual elements, such as circulation and recreation, for existing and proposed facilities, but no composite official map. The circulation element included a map with several proposed future collector streets that would connect to some of the Township's major and minor collector streets around Mullica Hill. It is not the intention of the proposed collector streets to provide an alternative route for Harrison Township's arterial and out-of-town through traffic. It is recommended that the Township planner in coordination with the Planning Board Engineer and Planning Board design a draft of an official map of proposed streets using the 1989 Circulation Plan as a base document. The map should then be adopted by the Township Committee.

## **7. Design Requirements**

The Township's policies for the location, configuration, design, and improvement of proposed future streets is contained within the Land Subdivision Ordinance. The ordinance states that consideration should be given for the continuation of existing streets and that local traffic be channeled onto a series of collector and subcollector local streets. It also provides for a series of other standards for the laying out of future streets through subdivision review and approval process.

The ordinance should be revised to clarify that these requirements are for municipal streets and that improvements for county, state, and federal roads must be consistent with those jurisdictions. In addition, it should note that street improvements for private streets not dedicated to the Township must also meet the Township's municipal standards. While most of the current design standards are adequate, they will need to be reviewed and possibly revised to conform to current engineering requirements and the state uniform planning design standards; the latter is expected to be put into effect in 1997. Traffic impact studies should also be required for all residential developments over 50 units, planned developments, non-residential developments greater than 5 acres, and for other developments, as determined by the Planning Board Engineer.

Large scale developments should provide an evaluation of how they will impact existing facilities. When prepared by an engineer in accordance with NJDOT guidelines, these documents will provide answers to many concerns that residents may have about proposed developments.

Some other design standard revisions should also be considered. Cal-de-sacs should be reduced from 2,000 feet to 600 feet and no more than 250 vehicle trips per day (about 25 residential units). Cul-de-sacs, which are essentially dead-end streets with a turn-around, are not conducive to efficient provision of municipal services and should be minimized to odd corners of a tract or areas where interior circulation would be difficult. In addition, commercial areas along arterial streets should be designed to provide common entrances to reduce highway access points and traffic problems.

#### **D. Recommendations Summary**

The following is a summary of circulation plan recommendations identified in the previous section. Implementation of these specific objectives will further the Township's goal of maintaining and assuring the quality of the existing and proposed routes by which people, goods, and services move throughout Harrison Township.

##### **1. Roadway and Bridge Network**

- The definition and the design standards in the Land Subdivision Ordinance should be amended to change the term "primary street" to "arterial road".
- The word "residential" should be removed from the terms "residential collector street" and "residential sub-collector street" to allow for these types of streets in mixed use and non-residential development.
- The chart "Standards for Streets" should also be revised to indicate that these are the standards for municipal streets, and that standards for roads of other jurisdictions, such as arterial roads and some collector streets, are dependent on those separate standards.

##### **2. Rights-of-Way and Cartways**

- No changes are recommended in the planned rights-of-way and cartway dimensions, at this time.

##### **3. Off-Street Parking and Loading**

- The ordinance should be amended to indicate a parking estimate for all major developments shall be prepared by a qualified engineer, traffic expert, planner, or architect to identify the proposed demand and that such calculations shall be subject to the review and recommendation of the Planning Board Engineer.
- The ordinance should be amended to include provisions for handicapped parking in accordance with applicable state and federal regulations.

- The Township should consider developing one or two centrally-located off-street shoppers parking lots to reduce on-street parking conflicts with pedestrian and vehicular through traffic. These lots would also provide shoppers with an easily identified parking destination enticing them to visit more often and stay longer in town.

4. **Buses, Trains, Air, and Water Transportation**

- Development of the PATCO high speed line extension to Glassboro will pose significant development pressure on Harrison Township. If constructed, the proper planning and development of this anticipated growth is essential to the future quality of life in Harrison Township.
- Ewan and Gilman Lakes on the Raccoon Creek and Elk Township border are relatively undeveloped, and should be considered for open space preservation by Gloucester County to order to protect them from over-development and intrusion by careless boaters and other users.

5. **Pedestrian Traffic**

- A main street pedestrian crossing plan should be developed and implemented to locate safe crossing locations and ways in which these crossings can be marked and upgraded to enhance pedestrian safety and minimize vehicular congestion.
- The Site Plan and Subdivision Ordinances should be revised to indicate that curbs and sidewalks shall be provided in all residential zones of the Township.
- A bicycle pathway should be planned in the Township to establish a recreational loop road for adult and child residents. The trail may be assembled as development occurs in the Township. The bicycle path should eventually link Mullica Hill and the villages of Richwood and Ewan.

6. **Official Map**

- It is recommended that the Township planner in coordination with the Planning Board Engineer and Planning Board prepare a draft official map. The proposed streets identified in the 1989 Circulation Plan should be used as a basis for the map. The map should then be adopted by the Township Committee.

7. **Design Requirements**

- Site Plan and Subdivision Ordinances' standards for municipal streets and other transportation infrastructure should be reviewed and revised for conformance to current engineering standards and the state uniform residential site improvement standards.

- The ordinances should be revised to clarify that these requirements are for municipal streets and that improvement standards for county, state, and federal roads must be consistent with those jurisdictions.
- The ordinances should note that street improvements for private streets not dedicated to the Township must also meet the Township's municipal standards. Traffic impact studies should be required for all residential developments over 50 units, planned developments, non-residential developments greater than 5 acres, and other development, as determined by the Planning Board Engineer.
- The subsection on cul-de-sacs should be reduced the size of these streets from 2,000 feet to 600 feet and no more than 250 vehicle trips per day.
- The standards should note that commercial areas along arterial streets should be designed to provide common entrances to reduce highway access points and traffic problems.